Effects of the Cultural Diversity on the Knowledge Sharing in Construction Project

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Abstract-- In the last decades construction activity has been heavily criticized for its productivity and performance in relation to cultural differences. There were several of studies indicated that the cultural differences have impact on knowledge sharing activities, and that leads to obstacle the knowledge sharing among project team members in the construction projects and impact the project performance. The cultural difference influences the knowledge sharing behavior in project team members due to different ethnic cities, gender, national culture or functions create a context of cultural complexity, which affect knowledge sharing in a negative way.

Purpose: - In this research study the influences of cultural differences on the knowledge sharing activity in construction project will be investigated and to what extend theses influences impact the project performance.

Approach: - In order to reach the goal of the study a survey questionnaire is assembled to gather the needed information/data. The collected data will be interpreted by development of a causal model simulating in dynamics modeling system, to evaluate the influences of the cultural differences on the knowledge sharing activities in the construction project and its effects on the project performances. The model is developed according to the rules of logic in order to achieve meaningful information.

Findings: - The study research reveals, from the simulation results of the system dynamic have proven that cultural difference is one of the major problems in the construction projects, which lower the project performance by hindering or reducing amount of the knowledge flow between the members of the construction project.

Conclusions: - In this study the cultural differences will be given careful attention to ensure better project performance is achieved in the construction projects.

Index Term-- Cultural Differences, Knowledge Sharing and Project Performance,
Note: the project performance in this study means (safety, quality, and cost).

INTRODUCTION

The construction activity is unique among other sectors as the activities of construction projects are often take place in the open-air in the situations where the level of the safety is very low. The employees of the construction projects are dealing with continuous switch in the nature of the job, and unsteady project working fields, which the employees of the construction projects are from grouping of mixture culture. Therefore, the cultural differences have the capability to affect the knowledge sharing to occur among the project members and affect the project performance. The cultural differences consider one of the problems which affect every group of people or corporation. The cultural difference affects extensively the international companies operating due to the fact that of the employees are from mixed cultures or different culture [1]. The cultural difference is function as an obstacle to the knowledge flow in the construction organizations.

Knowledge sharing can be defined straightforward as way of transferring the knowledge of one person to the other, group, or other construction organizations [2]. Knowledge can be transferred from the person who has it to other individuals who are in need for it, which is can be done by exchanging the knowledge among the members of the organization [3]. To have successful organizational

Management some factors have to be taken in consideration, having an effective knowledge sharing in the organization leads to increase the accumulation of organizational knowledge where that, result in higher productivity of the employees and improve the project performance [4]. Explicit and tacit individual knowledge held by the employees can increase the value to the product, customers and benefits the organization [5]. Individual knowledge is one of the sources of organizational knowledge, employees and organizations can obtain more knowledge by knowledge sharing process among individuals [5]. The lack of communication among the individuals within an organization will limit the knowledge sharing [5]. Knowledge shared between employees is related to maximize the benefit of knowledge asset of the organization. Knowledge asset of the organization can be greatly reduced when employees are not sharing their individual knowledge [6].

The Benefits of knowledge sharing within Organizations
1. Valuable knowledge Sharing.
2. Prevent inventing what already invented,
3. Decreasing unneeded effort,
4. Cost of inventions is reduced.

Experts and experienced people can help to create knowledge sharing foundation [7]. Knowledge sharing is significant for collaborative and joint venture has been recognized by previous studies [8, 9]. Storing away the Knowledge has negative consequences and knowledge sharing has a lot of benefits to the organizations, these have been noted by researchers. Institutions are now able to retain the knowledge created by their talents members and expertise by using effective knowledge sharing [10]. So as to increase the competence of organization and reduce working time knowledge sharing is one good method, by making sure the institutions or the companies learns from their past experiences and prevent redundant work [11]. On the other hand, [12] observed that the cultural differences in companies
lead to obstacles knowledge sharing. [13] Evaluated the cultural effect on knowledge sharing activities in the project team members, they assessed that, different cultural background of team members influence knowledge sharing in negative way which that, because of different aspects the team members such as gender, ethnicity, functions, cities resulting in complexity of cultural context. [14] Sharing the explicit knowledge in decrease due to the difficulties that cause by the cultural difference, while the probability of sharing the knowledge which is related to tacit knowledge is very rare, Fluency in corporate language is base of knowledge sharing whereas the lack of it is one prospect factor that barrier knowledge sharing, and it is the main cause of misunderstanding in multinational and multi cultural settings and effecting the process of learning and knowledge sharing dramatically [15]. [16] Knowledge sharing could be developed throughout a successful communication channels and as well the trust. Trust plays a significant role in how workers transfer and share their knowledge with the others.

As the cultural differences are being distinguished as one of the major obstacles that influence the knowledge sharing in the multicultural projects and that leads to decrease the project performance in the multicultural construction organization. Therefore, for this seeks this study will be accomplished to evaluate the knowledge sharing under the influences of the cultural differences, to what extend the culture difference obstacle the knowledge sharing among individuals and how that effects the project performance.

LITERATURE REVIEW

In order to evaluate the influences of the cultural differences on knowledge sharing, some definitions are required to be introduced.

The culture can be define as a patterned way of feeling, thinking, acquired, reacting and pass on from one place or person to another. Shaping the special achievements of human groups, and that contains their embodiments in artifacts [13]. This definition consider to be closer [17] in simple words the culture can be defined as the way of the peoples think, what being done, the creation of material products. [13] The culture also can be defined such as collected experiences of the brains which distinguish one person from another or group from other groups. Culture functions such as patterns and forms behavior and self perception in the society which is passed from generation to next generation. The cultural differences in international companies operating which having employees from different cultures have become more critical [18].

As long the cultural is capable to influence the project performance of firms, thus the knowledge management is could be influenced by diversity of the culture. Cultural diversity is a main problem to all organizational industries, and here some factors which it may obstacle the project success in the multicultural organization. Communication barriers were highlighted as a major obstacles in the transferring the knowledge where a smooth communication play important role in quality improvement process by maintains the spirit and thrust among the individual, the communication is significant guide the works to corporation prospective [19]. Safety culture can be defined straightforward as behavior affected by culture. Culture and safety in the firm are related to the attitudes of the employees in regards to safety. All the risk such as accidents and incidents in the firm is shared by them [20].

Knowledge management is defined as technical a program which is utilized for keeping and hand over the shared knowledge [21, 22, 23]. Which it is a Collection of knowing what way or manner by establishing techniques and method assisting and make easy the recognition, collected, distribution and use the information or the knowledge to meet their goals [24]. The knowledge is created by the individuals who has great expertise in the organization and shared in the database or the systems that are built up to assist the individuals or teams those who are with less expertise in the organization. The majority of the knowledge in the beginning is tacit in form; it is improved with some effort for the period of time through re-try and mistake, where it is less used because the organization not aware of it [25], whilst explicit knowledge exists there in the words, sentences, documents, sorted data, computer programs and in other different explicit forms.

The knowledge sharing is an opportunity to gain an inclusive advantage of the organization capability to come out with solution to the facing problems in the organization and lead to successful business with viable benefits [26], [27] Described the knowledge sharing as a way of sharing the thoughts, notions, facts, and skill among the team members regarding to the organization performance. [28, 29, 30, 31, 32, 33] clarified that the knowledge sharing has positive impact for the team performance, drop in production costs, increase the innovation, improve the ability of the company, increase the business performance, as well as rising the sale level and faster completion of new product and development projects. The fact is no individual knows everything, and no individual has the ability to keep up with relevant new knowledge continually being made entirely. Exchange or share the knowledge among the workers conserves resources and unlimited time for the workers to share out the knowledge that they hold. In mean while the knowledge sharing process has the capability to build a great benefit to the company. [34] Indicated, by distributing knowledge, and experiences acquisition the best utilization and gathering the obtained information with the individuals in the organization expert workers can be achieved. By way of sharing knowledge and the information the individual workers get to gain more knowledge from the experiences of their work and from the other individual’s experiences of the organization. Furthermore, [34] pointed out it is not only successful learning strategy in terms of the cost but also validate individual workers collected of knowledge. Several studies have attempted to set up the causes which influence the transfer of the knowledge in the multicultural construction project.
It is obvious that culture has impact on the way of an individual’s thinks and how information is understood by that individual. Which that was confirmed by studies of [35, 36, 37] as demonstrated in their researches that knowledge sharing, learning, and communication in organizations is deeply affected by cultural values of individual works.

Communication is one of the factors that affect the knowledge sharing process from a cultural difference aspect; specifically Communication is the corporate language. The language is one of the most significant factors in the process of sharing knowledge. [38] Emphasized on the importance of the language especially when the employees or prater’s of the organization their native languages are different from each other, increasing ambiguity. To be short of fluency in corporate language consider one of the greatest single possible hinder for knowledge sharing and it is central of the communication difficulties and misinterpretation or misunderstandings in multi nation and multicultural settings. Meanwhile it affects the process of learning and knowledge sharing deeply.

Organizational learning is linked with the capability to learn from other workers as well as from the openness’s culture in the organization. The learning and participating drives the field to the most competitive and significant steps for innovation and whole organizational implementation [39].

While, [40] cleared that trust is very significant in the knowledge sharing. [41] Stated that the knowledge sharing could be developed throughout a successful communication channels, social network as well the trust. Trust has the ability to affect knowledge sharing directly and not directly throughout relationships and culture as stated by [42]. [42] Stated that it is important for teams, groups in the organization to trust one another in the multicultural organizations. And that can be accomplished only where the information can be shared openly and honestly among the individuals, group, and teams. A trusted relationship removes cheating and blames lying between the workers [43]. Higher levels of trust develop knowledge sharing among workers according to [44].

From the mentioned in the literature review it observed that the knowledge sharing is influenced by the communication, trust, learning and innovation in multicultural organizations as shown in figure (1). The weakness of the used language can be most obstruct for exchanging the knowledge and its main of the communication difficulties and misunderstandings in the cultural difference origination which that influence the process of the learning. From the previous researches determined that if the organization has trusted culture the sharing knowledge would be easier which that leads to improve the innovation and learning. Whilst the trust between the employees and the organization can be improved by opening communication channels, also it observed that the learning and contributing takes the field to the most important steps for the innovation and entire organizational implementation.

RESEARCH METHODOLOGY

In research methodology, the cultural differences influences on flowing of knowledge in the construction project and its effect on project performance will be acknowledged. In order to do that, it is needed to specify the factors that obstacle the knowledge sharing between the individuals in the multicultural construction projects, and how it influence the project performance.

From the Literature review, the factors which are impacted by the cultural differences and hinder the flowing the knowledge among the team workers in construction project were recognized. The researchers agreed that the native languages differences in the multicultural projects hold back the knowledge sharing among the workers. The trust in the multicultural project consider one of the factors which encumber the individual to separate their work experiences with other members in organization which that lower the capacity of learning of the workers as well as decreasing the level of the innovation in the organization and in over all leads to decreasing the project performance.

To evaluate the degree of the impact or the influence of the cultural differences on the knowledge distribution in the organization, and to what level that influence the project performance. Therefore, gathering of questions were established and distributed to the individual workers of a multicultural construction project. The questionnaire is divided into two types of questions.

The first part of the questions focuses on the benefits of having good communication and high level of trust in the organization, and how that lead to increase the learning capacity and the innovation of the team workers and the organization, which those are considered in this study as the variables of the knowledge sharing that could be influenced by the cultural differences as shown in figure (1).

While the second part of the question concentrates about how the cultural differences impact the variables of the knowledge sharing, and how that impact reflects of the project performances as exposed in figure (2).
THE RESEARCH METHODS

The research method which is fitting for this study is a quantitative approach using questionnaires; a survey questionnaire is designed and adopted. The questionnaire is a printed list of questions was distributed to (30) experts of (multicultural Construction company in Malaysia) to come out with the needed information or data, the respondents were asked to answer the questions basic on their experience in the Construction projects in order to evaluate the influences of the cultural differences on the knowledge sharing in the construction Project and to what extend it effects the project performance.

THE DATA ANALYSIS (STATISTICAL ANALYSIS)

The data will be extracted from the collected questionnaire and analyzed, summarized and interpreted in the same way with the assist of descriptive statistical techniques such as total score and simple percentage. In this research study (system dynamics modeling) will be used by developing of a causal model simulating to specify the influences on the knowledge sharing activities and its effects on the project performance and. The model is developed according to the rules of logic in order to proof the level of significance in testing stated of the hypotheses and achieve meaningful information. The simulated result will be summarized and presented in tables and figures.

THE RESULT AND DISCUSSION

General information about the respondents
- **Education level:** all the respondents fall in three level of education (Diploma, Bachelor’s Degree, and Master degree).
- **The Ages:** the respondent’s ages are in between (29) up to (51) years old.
- **The respondent’s position in the company:** The respondent’s positions in the company are (senior executive, project manager, assistant manager, general manager, Assistant general manager, and deputy project manager).
- **The respondent’s Experiences:** the respondent’s experiences are from (1 year to 20 years)

The knowledge sharing’s variables which are could be influenced by the cultural differences and affect the knowledge flow in the organization.

The effectiveness of the variables of the knowledge sharing which are (language, trust, learning and innovation) in the organization that could be impacted by the cultural differences and impact the knowledge flew. These variables were asked in the first part of the questionnaire.

From the obtained questionnaire data, respondents emphasized on having high communication and high trust level between the team workers get the knowledge flowing in the organization from one to another, and increase the learning capacity and the innovation of the team workers of the project, and that embody in the graph (1).

1. The respondents emphasized that, in order to get the knowledge flow in the organization 78% of trust is required in each member in the team workers.
2. The respondents also point out that, for the sharing knowledge to occur effectively in the organization 69% of fluent communication in used languages in the construction projects.
3. The respondents in addition stressed that, with high level of trust among the team workers, and fluent communication in used language in the organization the level of the learning will be high as 77%.
4. Adding to that the respondents revealed, the possibility of the innovation to happen in the organization is 74% as high level of learning in the organization is assured.
While the respondents confirmed that, the cultural differences influence the flowing of knowledge in the organization as presented in graph (1)

- Respondents stated that, having cultural differences in the organization reduce the level of the trust between the team works up to 27% from 78%, and as low trust between the team workers, thus less knowledge will be shares with other workers in the organization.
- The obtained data, indicated that, not fluent communication and having different used languages in the organization decrease the level of the communication between the team workers from 69% to 20% which that leads to increase the misunderstanding the knowledge and lower the level of the knowledge flowing the in the organization.
- Respondents denoted that, as the level of the trust between the workers is low and no fluent communication is achieved well, the level of the learning of the team workers in the organization is decreased from 77% to 33%, due to no or less knowledge is shared in the organization.
- In addition, respondents expressed that, as poor communication, and low level of the learning, and trust, the opportunity of the innovation will be small as 27%.

As long it is proven that, the cultural differences influence the flowing the knowledge in the organization therefore, the project performance will be influenced too, this influences is clarified in Graph (2)

A. The blue line in the graph representing the project performance in the construction project without the culture influences

B. The red line is representing the cultural differences influences on project performance in the construction project.

From the result of graph (2) it is declared that the Performance of the project is high as 75% in the construction project, and that due to no culture influences in the organization, the effective knowledge flow generously among the team workers in the construction project.

While red line in the graph indicating that, the performance of the project is sharply decreased to 27% in the construction project due to the cultural differences influences in the organization which result in less knowledge flow among the team workers in the construction projects.

CONCLUSION

The researcher intends to conclude the outcome of the survey that conducted to identify the influences of the cultural differences on knowledge sharing in the construction project and its influences on the performance of the project (safety, quality, and cost).

The construction industry itself is facing numerous predicaments due to the cultural diversity influences on the flowing the knowledge in the construction site. These problems accumulated due to the complexity of the nature of the construction sector that happened due to impact of cultural difference.

The cultural differences impact the knowledge sharing in the construction projects can be translated from the respondents’ answers in graph (1). The respondents denoted that the cultural diversities have negative effect on the flowing the knowledge in the construction projects among the project team workers. In the graph (1) stated the cultural difference impact on the knowledge flowing lower the capacity of the learning, reduce the level of the trust, and decrease the smoothing of communication between the worker and that bring down the innovation to occur in the construction organizations. It is proven in graph (1) the trust is reduced from 78% to 27% due to the influences of the cultural differences in the construction organization.

Large number of respondents agreed that the impact of cultural differences on the knowledge sharing is one of the issues that influence the project performance negatively in the construction project as cleared out in graph (2) the project performance is high as 75% due to no culture influences in the organization and flowing the knowledge without restraint among the team workers in the construction projects, while the
project performance is sharply reduced to 27% due to the cultural diversity influences in the organization, these influences result in hindering the knowledge flow among the team workers in the construction organization, where is that strongly affect the outcome of the construction projects.

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